



## Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/06/2024
6.8	09/28/2024	557843-00019	Date of first issue: 03/15/2016

### **SECTION 1. IDENTIFICATION**

Product name	:	Fluazuron / Fipronil Formulation
Other means of identification	:	No data available

#### Manufacturer or supplier's details

Company name of supplier	:	Merck & Co., Inc
Address	:	126 E. Lincoln Avenue
		Rahway, New Jersey U.S.A. 07065
Telephone	:	908-740-4000
Emergency telephone	:	1-908-423-6000
E-mail address	:	EHSDATASTEWARD@merck.com
	_	

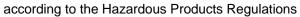
### Recommended use of the chemical and restrictions on use

Recommended use	:	Veterinary product
Restrictions on use	:	Not applicable

#### **SECTION 2. HAZARDS IDENTIFICATION**

#### GHS classification in accordance with the Hazardous Products Regulations

Flammable liquids	:	Category 3
Skin irritation	:	Category 2
Eye irritation	:	Category 2A
Carcinogenicity	:	Category 2
Reproductive toxicity	:	Category 1B
Specific target organ toxicity - single exposure	:	Category 3
Specific target organ toxicity - repeated exposure	:	Category 1 (Central nervous system, Kidney)
GHS label elements		
GHS label elements Hazard pictograms	:	
	:	Danger





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			damage to organs (Central nervous system, Kid- rolonged or repeated exposure.
Preca	utionary Statements	P202 Do not ha and understood P210 Keep awa and other igniti P260 Do not br P264 Wash ski P270 Do not ea P271 Use only	ay from heat, hot surfaces, sparks, open flames on sources. No smoking. reathe mist or vapors. In thoroughly after handling. at, drink or smoke when using this product. outdoors or in a well-ventilated area. itective gloves, protective clothing, eye protection
		all contaminate P304 + P340 + and keep comf unwell. P305 + P351 + for several min to do. Continue P308 + P313 If P332 + P313 If P337 + P313 If	<ul> <li>P353 IF ON SKIN (or hair): Take off immediately d clothing. Rinse skin with water.</li> <li>P312 IF INHALED: Remove person to fresh air ortable for breathing. Call a doctor if you feel</li> <li>P338 IF IN EYES: Rinse cautiously with water utes. Remove contact lenses, if present and easy a rinsing.</li> <li>F exposed or concerned: Get medical attention.</li> <li>skin irritation occurs: Get medical attention.</li> <li>eye irritation persists: Get medical attention.</li> <li>ake off contaminated clothing and wash it before</li> </ul>
		<b>Storage:</b> P405 Store loc	ked up.
		Disposal:	of contents and container to an approved waste

Vapors may form explosive mixture with air.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture

: Mixture

#### Components

Chemical name	Common	CAS-No.	Concentration (% w/w)
	Name/Synonym		
2-(2-	Butoxydiglycol	112-34-5	>= 60 - < 80 *
Butoxyethoxy)ethanol			>= 00 - < 00
N-Methyl-2-pyrrolidone	1-	872-50-4	
	Methylpyrroli-		>= 10 - < 30 *
	dinone		



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Ethar	nol#	Ethyl alcohol	64-17-5	>= 10 - < 30
Fluaz	uron	No data availa- ble	86811-58-7	>= 1 - < 5 *
Fipro	nil	5-Amino-1-[2,6- dichloro-4- (trifluorome- thyl)phenyl]-4- [(trifluorome- thyl)sulfinyl]-1H- pyrazole-3- carbonitrile	120068-37	-3 >= 1 - < 5 *
	tert-Butyl-4- Phenol, (1,1- methoxyphenol dimethylethyl)- 4-methoxy-		25013-16-5	5 >= 0.1 - < 1 *

# Voluntarily-disclosed substance

Actual concentration or concentration range is withheld as a trade secret

### SECTION 4. FIRST AID MEASURES

General advice	:	In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.
If inhaled	:	If inhaled, remove to fresh air. Get medical attention.
In case of skin contact	:	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention.
If swallowed	:	If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	:	Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Suspected of causing cancer. May damage the unborn child. Causes damage to organs through prolonged or repeated exposure. There may be delayed neurological effects, including brain oedema.
Protection of first-aiders	:	Must not be confused with organophosphorous compounds! First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
Notes to physician	:	Treat symptomatically and supportively.



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SECTION	5. FIRE-FIGHTING M	IEASURES	

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapors may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.
Hazardous combustion prod- ucts	:	Carbon oxides Nitrogen oxides (NOx) Chlorine compounds Fluorine compounds Sulfur oxides
Specific extinguishing meth- ods	:	Use extinguishing measures that are appropriate to local cir- cumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- tive equipment and emer- gency procedures	:	Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
Environmental precautions	:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g., by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapors/mists with a water spray jet. For large spills, provide diking or other appropriate



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		can be pumped container. Clean up remain absorbent. Local or nationa disposal of this employed in the determine which Sections 13 an	keep material from spreading. If diked material d, store recovered material in appropriate ining materials from spill with suitable al regulations may apply to releases and material, as well as those materials and items e cleanup of releases. You will need to th regulations are applicable. d 15 of this SDS provide information regarding national requirements.

### SECTION 7. HANDLING AND STORAGE

Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation	:	If sufficient ventilation is unavailable, use with local exhaust ventilation. Use explosion-proof electrical, ventilating and lighting equip- ment.
Advice on safe handling	:	Do not get on skin or clothing. Do not breathe mist or vapors. Do not swallow. Do not get in eyes. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment Non-sparking tools should be used. Keep container tightly closed. Already sensitized individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitizers. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the
Conditions for safe storage	:	environment. Keep in properly labeled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.
Materials to avoid	:	Do not store with the following product types: Strong oxidizing agents Self-reactive substances and mixtures Organic peroxides Flammable solids Pyrophoric liquids Pyrophoric solids



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			ubstances and mixtures ad mixtures which in contact with water emit es

### Very acutely toxic substances and mixtures

#### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
2-(2-Butoxyethoxy)ethanol	112-34-5	TWA (Inhalable fraction and vapor)	10 ppm	ACGIH
N-Methyl-2-pyrrolidone	872-50-4	TWA	400 mg/m <sup>3</sup>	CA ON OEL
Ethanol	64-17-5	TWA	1,000 ppm 1,880 mg/m³	CA AB OEL
		STEL	1,000 ppm	CA BC OEL
		STEV	1,000 ppm	CA QC OEL
		STEL	1,000 ppm	ACGIH
Fluazuron	86811-58-7	TWA	60 µg/m3 (OEB 3)	Internal
		Wipe limit	600 µg/ 100cm2	Internal
Fipronil	120068-37-3	TWA	2 µg/m3 (OEB 4)	Internal
	Further inform	ation: Skin	•	
		Wipe limit	20 µg/100 cm2	Internal

#### Ingredients with workplace control parameters

#### **Biological occupational exposure limits**

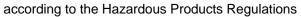
:

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentra- tion	Basis
N-Methyl-2-pyrrolidone	872-50-4	5-Hydroxy- N-methyl-2- pyrrolidone	Urine	End of shift (As soon as possible after exposure ceases)	100 mg/l	ACGIH BEI

Engineering measures

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., dripless quick connections). All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment. Containment technologies suitable for controlling compounds

are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).





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		Minimize or	ben handling.		
		Use explosi equipment.	ion-proof electrical, ventilating and lighting		
Perse	onal protective equip	ment			
Resp	iratory protection	exposure a	local exhaust ventilation is not available or ssessment demonstrates exposures outside the led guidelines, use respiratory protection.		
	Iter type protection		particulates and organic vapor type		
M	aterial	: Chemical-re	esistant gloves		
Re	emarks		Consider double gloving. Take note that the product is flammable, which may impact the selection of hand protection		
Eye p	protection	: Wear safety If the work mists or ae Wear a face	y glasses with side shields or goggles. environment or activity involves dusty conditions, rosols, wear the appropriate goggles. eshield or other full face protection if there is a r direct contact to the face with dusts, mists, or		
Skin a	and body protection	Additional b task being p disposable	m or laboratory coat. body garments should be used based upon the performed (e.g., sleevelets, apron, gauntlets, suits) to avoid exposed skin surfaces. briate degowning techniques to remove potentially ed clothing.		
Hygie	ene measures	: If exposure eye flushing working pla When using Wash conta The effectiv engineering appropriate industrial hy	to chemical is likely during typical use, provide g systems and safety showers close to the		

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	light yellow
Odor	:	solvent
Odor Threshold	:	No data available
рН	:	No data available
Melting point/freezing point	:	No data available



according to the Hazardous Products Regulations

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	Initial b range	oiling point and boiling	:	No data available	
	Flash p	oint	:	32 °C	
	Evapor	ation rate	:	No data available	
	Flamma	ability (solid, gas)	:	Not applicable	
	Flamma	ability (liquids)	:	Not applicable	
		explosion limit / Upper bility limit	:	No data available	
		explosion limit / Lower bility limit	:	No data available	
	Vapor p	pressure	:	No data available	
	Relative	e vapor density	:	No data available	
	Relative	e density	:	No data available	
	Solubili Wat	ty(ies) er solubility	:	No data available	
		n coefficient: n-	:	No data available	
	octanol Autoign	/water hition temperature	:	No data available	
	Decom	position temperature	:	No data available	
	Viscosi Visc	ty :osity, kinematic	:	No data available	
	Explosi	ve properties	:	Not explosive	
	Oxidizir	ng properties	:	The substance or	mixture is not classified as oxidizing.
	Molecu	lar weight	:	No data available	
	Particle Particle	e characteristics e size	:	No data available	

### SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reac-	:	Flammable liquid and vapor.
tions		Vapors may form explosive mixture with air.
		Can react with strong oxidizing agents.

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Incon	litions to avoid npatible materials rdous decomposition ucts		0 0	•
SECTION	11. TOXICOLOGICAL	. INF	ORMATION	
Inhala Skin Inges	contact	es of	exposure	
	e toxicity			
Not c Prod	lassified based on avai	lable	information.	
	e oral toxicity	:	Acute toxicity of Method: Calcu	estimate: > 2,000 mg/kg lation method
Acute	e inhalation toxicity	:	Acute toxicity of Exposure time Test atmosphe Method: Calcu	ere: dust/mist
Acute	e dermal toxicity	:	Acute toxicity of Method: Calcu	estimate: > 2,000 mg/kg lation method
Com	ponents:			
2-(2-	Butoxyethoxy)ethano	I:		
Acute	e oral toxicity	:	LD50 (Mouse)	: 2,410 mg/kg
Acute	e dermal toxicity	:	LD50 (Rabbit)	: 2,764 mg/kg
N-Me	thyl-2-pyrrolidone:			
Acute	e oral toxicity	:	LD50 (Rat): 4,	150 mg/kg
Acute	e inhalation toxicity	:	LC50 (Rat): > Exposure time Test atmosphe Method: OECI	:4 h
Acute	e dermal toxicity	:	LD50 (Rat): >	5,000 mg/kg
Etha	nol:			
	e oral toxicity	:	LD50 (Rat): 10 Method: OECI	),470 mg/kg D Test Guideline 401
Acute	e inhalation toxicity	:	LC50 (Rat, ma Exposure time	



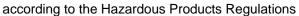


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			Test atmosphere	: vapor
Acute	dermal toxicity	:	LD50 (Rabbit): >	15,800 mg/kg
Fluaz	uron:			
Acute	oral toxicity	:	LD50 (Rat): > 5,0 Method: OECD T	000 mg/kg Test Guideline 401
Acute	inhalation toxicity	:	LC50 (Rat): > 6.0 Exposure time: 4 Test atmosphere Method: OECD T	h
Acute	dermal toxicity	:	LD50 (Rat): > 2,0 Method: OECD T	000 mg/kg Test Guideline 402
Fipro	nil:			
-	oral toxicity	:	LD50 (Rat): 92 m	ng/kg
Acute	inhalation toxicity	:	LC50 (Rat): 0.36 Exposure time: 4 Test atmosphere	h
Acute	dermal toxicity	:	: LD50 (Rabbit): 354 mg/kg	
tert-B	utyl-4-methoxyphenol	:		
Acute	oral toxicity	:	LD50 (Rabbit): 2,	100 mg/kg
Acute	dermal toxicity	:		000 mg/kg Test Guideline 402 A substance or mixture has no acute derma
	corrosion/irritation			
Comp	oonents:			
2-(2-E	Butoxyethoxy)ethanol:			
Speci Metho Resul	bd	: : :	Rabbit OECD Test Guid Mild skin irritatior	
N-Me	thyl-2-pyrrolidone:			
Resul		:	Skin irritation	
Ethar	nol:			
Speci	-	:	Rabbit	
Metho Resul	bd	:	OECD Test Guid No skin irritation	eline 404
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Flua	zuron:			
Spe		:	Rabbit	
Meth		:	OECD Test Gu	
Res	uit	:	No skin irritatio	n
Fipr	onil:			
Spe		:	Rabbit	
Meth		:	OECD Test Gu	
Res	uit	:	No skin irritatio	n
tert-	Butyl-4-methoxyphen	ol:		
Spe		:	Rabbit	
Res	ult	:	Skin irritation	
Seri	ous eye damage/eye i	irritati	on	
Cau	ses serious eye irritatio	n.		
<u>Con</u>	<u>iponents:</u>			
2-(2-	Butoxyethoxy)ethand	ol:		
Spe		:	Rabbit	
Res	ult	:	Irritation to eye	s, reversing within 21 days
N-M	ethyl-2-pyrrolidone:			
Spe	cies	:	Rabbit	
Res	ult	:	Irritation to eye	s, reversing within 21 days
Etha	anol:			
Spe	cies	:	Rabbit	
Res		:		s, reversing within 21 days
Meth	nod	:	OECD Test Gu	ideline 405
Flua	zuron:			
Spe		:	Rabbit	
Res		:	Mild eye irritatio	ิวท
Meth	hod	:	OECD Test Gu	ideline 405
Fipr	onil:			
Spe		:	Rabbit	
Res	ult	:	No eye irritatior	
Meth	hod	:	OECD Test Gu	
tert-	Butyl-4-methoxyphen	ol:		
Spe		:	Rabbit	
Res	ult	:	Irritation to eye	s, reversing within 21 days
Rem	narks	:	Based on data	from similar materials





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#### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### **Respiratory sensitization**

Not classified based on available information.

#### **Components:**

#### 2-(2-Butoxyethoxy)ethanol:

Test Type	:	Maximization Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Result	:	negative

#### N-Methyl-2-pyrrolidone:

Test Type	:	Local lymph node assay (LLNA)
Routes of exposure	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	negative
Remarks	:	Based on data from similar materials

### Ethanol:

Test Type	:	Mouse ear swelling test (MEST)
Routes of exposure	:	Skin contact
Species	:	Mouse
Result	:	negative

#### Fluazuron:

Routes of exposure	:	Skin contact
Species	:	Guinea pig
Result	:	negative

#### Fipronil:

Test Type	:	Buehler Test
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative

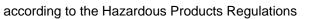
#### tert-Butyl-4-methoxyphenol:

Test Type	:	Human repeat insult patch test (HRIPT)
Routes of exposure	:	Skin contact
Result	:	negative

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	n <b>cell mutagenicity</b> classified based on avai	lable	information.	
<u>Com</u>	ponents:			
-	Butoxyethoxy)ethanol otoxicity in vitro	:	Test Type: Bacte Result: negative	erial reverse mutation assay (AMES)
			Test Type: In vitr Result: negative	ro mammalian cell gene mutation test
			Test Type: Chror Result: negative	mosome aberration test in vitro
Geno	otoxicity in vivo	:		genicity (in vivo mammalian bone-marrow chromosomal analysis) e: Ingestion
N-Me	ethyl-2-pyrrolidone:			
	otoxicity in vitro	:		erial reverse mutation assay (AMES) Fest Guideline 471
				ro mammalian cell gene mutation test Fest Guideline 476
				damage and repair, unscheduled DNA syn- alian cells (in vitro)
Geno	otoxicity in vivo	:	cytogenetic assa Species: Mouse Application Route	
			cytogenetic test, Species: Hamste Application Rout	
Etha	nol:			
	otoxicity in vitro	:		erial reverse mutation assay (AMES) Fest Guideline 471



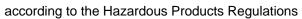


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		Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative	
		Test Type: Chromosome aberration test in vitro Result: negative	
Geno	toxicity in vivo	: Test Type: Mammalian erythrocyte micronucleus test (in vi cytogenetic assay) Species: Rat Application Route: Ingestion Result: negative	ivo
Fluaz	uron:		
	toxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative	
		Test Type: DNA Repair Result: negative	
		Test Type: In vitro mammalian cell gene mutation test Result: negative	
Geno	toxicity in vivo	: Test Type: Cytogenetic assay Species: Hamster Result: equivocal	
Fipro	nil:		
-	toxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative	
		Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative	
		Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative	
Geno	toxicity in vivo	<ul> <li>Test Type: Mammalian erythrocyte micronucleus test (in vi cytogenetic assay)</li> <li>Species: Mouse</li> <li>Application Route: Ingestion</li> <li>Method: OECD Test Guideline 474</li> <li>Result: negative</li> </ul>	ivo
		Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo Species: Rat Application Route: Ingestion Method: OECD Test Guideline 486	



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		Result: negative	
tert-B	Butyl-4-methoxyphe	nol:	
	toxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES Result: negative	)
		Test Type: In vitro mammalian cell gene mutation te Method: OECD Test Guideline 476 Result: negative	st
		Test Type: Chromosome aberration test in vitro Result: negative	
		Test Type: DNA damage and repair, unscheduled D thesis in mammalian cells (in vitro) Result: negative	NA syn-
	nogenicity ected of causing cano	er	
-	oonents:		
	thyl-2-pyrrolidone:		
Speci		: Rat	
	cation Route	: Ingestion	
	sure time	: 2 Years	
Resul	lt	: negative	
Speci	es	: Rat	
	cation Route	: inhalation (vapor)	
	sure time	: 2 Years	
Resul	lt	: negative	
Fluaz	uron:		
Speci		: Rat	
	cation Route	: Ingestion	
Expos Metho	sure time	: 2 Years : OECD Test Guideline 453	
Resul		: negative	
Speci	05	: Mouse	
	cation Route	: Ingestion	
	sure time	: 2 Years	
Resul		: negative	
Fipro	nil:		
Speci		: Mouse	
	cation Route	: Ingestion	
Expos	sure time	: 78 weeks	
Metho		: Directive 67/548/EEC, Annex V, B.32.	
Resul	It	: negative	





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	Species Applica Exposu Method Result Remark	tion Route ire time I		positive	EEC, Annex V, B.33. r mode of action is not relevant in humans.
	tert-Bu	tyl-4-methoxyphenol:	1		
	Species	s tion Route	: :	Rat Ingestion 104 weeks positive	
	Species Applica Exposu Result	tion Route	: : :	Hamster, male Ingestion 24 weeks positive	
	Carcino ment	ogenicity - Assess-	:	Limited evidence	of carcinogenicity in animal studies
	•	<b>fuctive toxicity</b> mage the unborn child.			
	Compo	onents:			
	•	itoxyethoxy)ethanol: on fertility	:	Test Type: One-g Species: Rat Application Route Method: OECD Te Result: negative	
	Effects	on fetal development	:	Test Type: Embry Species: Rat Application Route Result: negative	o-fetal development : Ingestion
	N-Meth	yl-2-pyrrolidone:			
		on fertility	:	Test Type: Two-g Species: Rat Application Route Method: OECD Te Result: negative	
	Effects	on fetal development	:	Species: Rat Application Route Method: OECD Te Result: positive	



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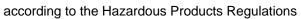
according to the Hazardous Products Regulations

Version 6.8	Revision Date: 09/28/2024	-	9S Number: 7843-00019	Date of last issue: 04/06/2024 Date of first issue: 03/15/2016
			Species: Rat Application Route Result: positive	: inhalation (vapor)
			Test Type: Embry Species: Rabbit Application Route Result: positive	ro-fetal development : Ingestion
	productive toxicity - As- sment	:	Clear evidence of animal experimen	adverse effects on development, based on ts.
Eth	anol:			
	ects on fertility	:	Test Type: Two-g Species: Mouse Application Route Result: negative	eneration reproduction toxicity study : Ingestion
Flua	azuron:			
Effe	ects on fertility	:	Test Type: Two-g Species: Rat Application Route Result: negative	eneration reproduction toxicity study : Ingestion
Effe	ects on fetal development	:	Test Type: Embry Species: Rat Application Route Result: negative	ro-fetal development : Ingestion
			Test Type: Embry Species: Rabbit Application Route Method: OECD To Result: negative	
Fip	ronil:			
-	ects on fertility	:	Test Type: Two-g Species: Rat Application Route Result: negative	eneration reproduction toxicity study : Ingestion
Effe	ects on fetal development	:	Test Type: Embry Species: Rabbit Application Route Method: OECD To Result: negative	
tert	-Butyl-4-methoxyphenol	:		
	ects on fertility	:	Test Type: One-g Species: Rat Application Route	eneration reproduction toxicity study : Ingestion



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				Result: negative	
	Effects	on fetal development	:	Test Type: Fertilit Species: Mouse Application Route Result: positive	y/early embryonic development : Ingestion
	Reprod sessme	luctive toxicity - As- ent	:	Some evidence o animal experimen	f adverse effects on development, based on ts.
		single exposure use respiratory irritatio	n.		
	Compo	onents:			
	N-Meth	yl-2-pyrrolidone:			
	Assess	ment	:	May cause respira	atory irritation.
			entr	al nervous system,	Kidney) through prolonged or repeated ex-
	Components:				
	Fipron	il:			
		of exposure Organs ment	:	Ingestion Central nervous s Shown to produce centrations of 10	e significant health effects in animals at con-
	Repeat	ted dose toxicity			
	Compo	onents:			
	2-(2-Bı	utoxyethoxy)ethanol:			
		- ition Route ure time		Rat 250 mg/kg 1,000 mg/kg Ingestion 90 Days OECD Test Guide	eline 408
	Exposu Method	tion Route ure time I		Rat >= 0.094 mg/l inhalation (vapor) 90 Days OECD Test Guide	eline 413
			:	Rat >= 2,000 mg/kg Skin contact 90 Days	



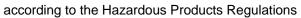


Version 6.8	Revision Date: 09/28/2024	S Number: 7843-00019	Date of last issue: 04/06/2024 Date of first issue: 03/15/2016
Specie NOAE LOAE Applic Expos Metho Specie NOAE LOAE Applic Expos Metho Specie NOAE LOAE LOAE	EL L ation Route sure time ed es EL L ation Route sure time ed es	Rat, male 169 mg/kg 433 mg/kg Ingestion 90 Days OECD Test Guide Rat 0.5 mg/l 1 mg/l inhalation (dust/m 96 Days OECD Test Guide Rabbit 826 mg/kg 1,653 mg/kg Skin contact 20 Days	ist/fume)
Ethan Specie NOAE LOAE Applic Expos Fluaze Specie LOAE	ol: es :L L ation Route sure time uron: es	Rat 1,730 mg/kg 3,200 mg/kg Ingestion 90 Days Rat 240 mg/kg Ingestion	
Target Specie NOAE LOAE Applic Expos	L L ation Route sure time	13 Weeks Liver, Thyroid, Pit Rat 10 mg/kg 100 mg/kg Skin contact 3 Weeks	uitary gland
Expos	L L ation Route sure time t Organs nil:	Dog 7.5 mg/kg 110 mg/kg Ingestion 52 Weeks Liver Rabbit	

according to the Hazardous Products Regulations

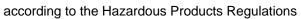


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	L cation Route sure time		5 mg/kg 10 mg/kg Skin contact 21 Days OECD Test Guide	eline 410
	EL L cation Route sure time		Rat, male 0.059 mg/kg 0.019 mg/kg Ingestion 89 Weeks Directive 67/548/f	EEC, Annex V, B.33.
tert-B	utyl-4-methoxyphenol	l:		
	EL	:	Rat 50 mg/kg 250 mg/kg Ingestion 8 Months	
-	ation toxicity assified based on availa	able	information.	
Expe	rience with human exp	osi	ıre	
<u>Comp</u>	oonents:			
Skin o	thyl-2-pyrrolidone: contact 12. ECOLOGICAL INF		Symptoms: Skin i	rritation
OLUTION				
Ecoto	oxicity			
Comp	oonents:			
-	Butoxyethoxy)ethanol: ty to fish	:	LC50 (Lepomis m Exposure time: 96	acrochirus (Bluegill sunfish)): 1,300 mg/l 5 h
	ty to daphnia and other ic invertebrates	:	EC50 (Daphnia m Exposure time: 48 Method: OECD T	
Toxici plants	ty to algae/aquatic	:	ErC50 (Desmode Exposure time: 96 Method: OECD T	
			NOEC (Desmode mg/l Exposure time: 96 Method: OECD T	





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Toxicit	y to microorganisms	:	EC10: > 1,995 mg Exposure time: 30	
N-Metl	nyl-2-pyrrolidone:			
Toxicit	y to fish	:	LC50 (Oncorhync Exposure time: 96	hus mykiss (rainbow trout)): > 500 mg/l S h
	y to daphnia and other invertebrates	:	EC50 (Daphnia m Exposure time: 24 Method: DIN 3847	
Toxicity plants	y to algae/aquatic	:	ErC50 (Desmode Exposure time: 72	smus subspicatus (green algae)): 600.5 mg ? h
			EC10 (Desmodes Exposure time: 72	mus subspicatus (green algae)): 92.6 mg/l 2 h
	y to daphnia and other c invertebrates (Chron- ity)	:	NOEC (Daphnia r Exposure time: 21 Method: OECD To	
Toxicit	y to microorganisms	:	EC50: > 600 mg/l Exposure time: 30 Method: ISO 8192	) min
Ethano	ol:			
Toxicit	y to fish	:	LC50 (Pimephale Exposure time: 96	s promelas (fathead minnow)): 14,200 mg/l 5 h
	y to daphnia and other invertebrates	:	EC50 (Ceriodaph Exposure time: 48	nia dubia (water flea)): 5,012 mg/l 3 h
Toxicity plants	y to algae/aquatic	:	ErC50 (Chlorella Exposure time: 72	vulgaris (Fresh water algae)): 275 mg/l 2 h
			EC10 (Chlorella v Exposure time: 72	ulgaris (Fresh water algae)): 11.5 mg/l 2 h
Toxicity	y to fish (Chronic tox-	:	NOEC (Oryzias la Exposure time: 10	tipes (Japanese medaka)): >= 79 mg/l 00 d
aquatio	y to daphnia and other c invertebrates (Chron-	:	NOEC (Daphnia r Exposure time: 9	nagna (Water flea)): 9.6 mg/l d
ic toxic Toxicit	y to microorganisms	:	EC50 (Protozoa): Exposure time: 4	
Fluazu	iron:			
Toxicit	y to fish	:	LC50 (Cyprinus c Exposure time: 96	arpio (Carp)): > 9.1 mg/l S h
Toxicit	y to daphnia and other	:	EC50 (Daphnia s	o. (Water flea)): 0.0006 mg/l





Vers 6.8	sion	Revision Date: 09/28/2024		9S Number: 7843-00019	Date of last issue: 04/06/2024 Date of first issue: 03/15/2016
	aquatic	invertebrates		Exposure time: 48	3 h
	Toxicity plants	to algae/aquatic	:	NOEC (Raphidoca 27.9 mg/l Exposure time: 72	elis subcapitata (freshwater green alga)): 2 h
	Fiproni	il:			
	Toxicity	r to fish	:	LC50 (Lepomis m Exposure time: 96	acrochirus (Bluegill sunfish)): 85.2 µg/l ∂ h
		to daphnia and other invertebrates	:	LC50 (Mysidopsis Exposure time: 96	s bahia (opossum shrimp)): 0.14 μg/l δ h
	Toxicity plants	to algae/aquatic	:	<ul> <li>EC50 (Desmodesmus subspicatus (green algae)): 68 μ</li> <li>Exposure time: 96 h</li> <li>Method: OECD Test Guideline 201</li> </ul>	
				NOEC (Desmode Exposure time: 96 Method: OECD Te	
	Toxicity icity)	v to fish (Chronic tox-	:	NOEC (Cyprinodo µg/l Exposure time: 35	on variegatus (sheepshead minnow)): 2.9 5 d
	aquatic	to daphnia and other invertebrates (Chron-	:	NOEC (Mysidopsi Exposure time: 28	is bahia (opossum shrimp)): 0.0077 μg/l 3 d
	ic toxici Toxicity	to microorganisms	:	EC50: > 1,000 mg Exposure time: 3	
	tert-Bu	tyl-4-methoxyphenol			
	Toxicity		:	LC50 (Danio rerio Exposure time: 96 Method: OECD Te	
		to daphnia and other invertebrates	:	EC50 (Daphnia m Exposure time: 48 Method: OECD To	
	Toxicity plants	v to algae/aquatic	:	ErC50 (Pseudokir mg/l Exposure time: 72 Method: OECD Te	
				NOEC (Pseudokir mg/l Exposure time: 72 Method: OECD Te	



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Persi	stence and degradab	ility		
<u>Comp</u>	oonents:			
-	Butoxyethoxy)ethanol gradability	l <b>:</b> :	Result: Readily b Biodegradation: Exposure time: 2 Method: OECD 1	85 %
N-Me	thyl-2-pyrrolidone:			
	gradability	:	Result: Readily b Biodegradation: Exposure time: 2 Method: OECD 1	73 %
Ethar	nol:			
Biode	gradability	:	Result: Readily b Biodegradation: Exposure time: 2	84 %
Fipro	nil:			
-	gradability	:	Biodegradation: Exposure time: 2	
Bioad	cumulative potential			
Com	oonents:			
Partiti	Butoxyethoxy)ethanol ion coefficient: n- ol/water		log Pow: 1	
N-Me	thyl-2-pyrrolidone:			
	ion coefficient: n- ol/water	:	log Pow: -0.46 Method: OECD T	Fest Guideline 107
Ethar	nol:			
	ion coefficient: n- ol/water	:	log Pow: -0.35	
Fluaz	uron:			
	ion coefficient: n- ol/water	:	log Pow: 5.1	
Fipro	nil:			
Bioac	cumulation	:		s macrochirus (Bluegill sunfish) factor (BCF): 321



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	ion coefficient: n- ol/water	:	log Pow: 4	
tert-E	Butyl-4-methoxypher	nol:		
Bioac	cumulation	:		as latipes (Orange-red killifish) on factor (BCF): 16 - 21
	ion coefficient: n- ol/water	:	log Pow: 2.82 Method: OECE	7 Test Guideline 117
	<b>lity in soil</b> ata available			
Othe	r adverse effects			
No da	ata available			

Disposal methods		
Waste from residues	:	Do not dispose of waste into sewer. Dispose of in accordance with local regulations.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

### **SECTION 14. TRANSPORT INFORMATION**

### International Regulations

UNRTDG UN number Proper shipping name Class Packing group Labels Environmentally hazardous	-	UN 1170 ETHANOL SOLUTION 3 III 3 no
IATA-DGR UN/ID No. Proper shipping name Class Packing group Labels Packing instruction (cargo aircraft) Packing instruction (passen- ger aircraft)	•	UN 1170 Ethanol solution 3 III Flammable Liquids 366 355

#### IMDG-Code



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## Fluazuron / Fipronil Formulation

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	number er shipping name	: UN 1170 : ETHANOL SO (Fluazuron, Fij	
Class Packing group Labels		: 3 : III : 3	
EmS	Code ne pollutant	: F-E, S-D : yes	

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### **Domestic regulation**

<b>TDG</b> UN number Proper shipping name Class	: UN 1170 : ETHANOL SOLUTION : 3
Packing group	: III
Labels	: 3
ERG Code	: 127
Marine pollutant	: yes(Fluazuron, Fipronil)

#### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

#### **SECTION 15. REGULATORY INFORMATION**

#### The ingredients of this product are reported in the following inventories:

AICS	:	not determined
DSL	:	not determined
IECSC	:	not determined

### **SECTION 16. OTHER INFORMATION**

Full text of other abbreviations							
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)					
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)					
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)					
CA BC OEL	:	Canada. British Columbia OEL					
CA ON OEL	:	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.					
CA QC OEL	:	Québec. Regulation respecting occupational health and safe- ty, Schedule 1, Part 1: Permissible exposure values for air- borne contaminants					
ACGIH / TWA	:	8-hour, time-weighted average					

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CA A CA B CA O	H / STEL B OEL / TWA C OEL / STEL N OEL / TWA C OEL / STEV	:	short-term exp	tional exposure limit osure limit d Average Limit (TWA)

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods: vPvB - Verv Persistent and Verv Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Sources of key data used to compile the Material Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
Revision Date Date format	:	09/28/2024 mm/dd/yyyy

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific



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context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

CA / Z8